Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims

Claim 1 **(Currently Amended)**: A method for luminance noise filtering, comprising:

inputting a region of pixel data from an image sensor; ~~and~~

determining a virtually filtered luminance from a first processing of said ~~the~~ region of pixel data and without using other pixel data for a pixel location within the region; and

determining a reference luminance for the pixel location from a second processing of said same region of pixel data and without using other pixel data.

Claim 2 **(Currently Amended)**: The method of claim 1, ~~further comprising:~~ wherein the second processing includes the steps of:

determining interpolated color components for the pixel location from ~~the~~ said region of pixel data; and

determining the reference luminance for the pixel location from the interpolated color components.

Claim 3 **(Canceled)**.

Claim 4 **(Previously Presented)**: The method of claim 3, further comprising:

selecting between the virtually filtered luminance and the reference luminance as a final luminance of the pixel location depending on an adaptive luminance.

Claim 5 **(Previously Presented)**: The method of claim 4, further comprising:

determining a threshold value from the adaptive luminance;

selecting the virtually filtered luminance if an absolute of a difference between the virtually filtered luminance and the reference luminance is less than or equal to the threshold value; and

selecting the reference luminance if the absolute of the difference between the virtually filtered luminance and the reference luminance is greater than the threshold value.

Claim 6 (**Previously Presented**): The method of claim 5, wherein the adaptive luminance is determined from an overall brightness of a previous image.

Claim 7 (**Previously Presented**): The method of claim 5, wherein the adaptive luminance is determined from an average reference luminance for a predetermined region of pixel data.

Claim 8 (**Previously Presented**): The method of claim 5, wherein the threshold value is greater when the adaptive luminance is lower.

Claim 9 (**Previously Presented**): The method of claim 4, wherein the adaptive luminance is indicated by an auto exposure gain for the image sensor.

Claim 10 (**Previously Presented**): The method of claim 4, wherein the adaptive luminance is indicated by the reference luminance.

Claim 11 (**Previously Presented**): The method of claim 1, wherein the virtually filtered luminance is determined by averaging a respective pixel data multiplied with a respective weighting coefficient for each pixel location of the region.

Claim 12 (**Previously Presented**): The method of claim 1, wherein the image sensor is part of a hand-held image pick-up device having minimized line memory capacity.

Claim 13 (**Currently Amended**): A system for luminance noise filtering, comprising:
a memory device for storing a region of pixel data from an image sensor; ~~and~~
a noise filter for determining a virtually filtered luminance from <u>a first processing of said</u>

the region of pixel data and without using other pixel data for a pixel location within the region; and

a matrix for determining a reference luminance for the pixel location from a second processing of said same region of pixel data and without using other pixel data.

Claim 14 (**Currently Amended**): The system of claim 13, further comprising:
a matrix for determining wherein the matrix further determines interpolated color components for the pixel location from the said region of pixel data such that the reference luminance is determined from the interpolated color components.

Claim 15 (**Canceled**).

Claim 16 (**Previously Presented**): The system of claim 15, wherein the noise filter selects between the virtually filtered luminance and the reference luminance as a final luminance of the pixel location depending on an adaptive luminance.

Claim 17 (**Previously Presented**): The system of claim 16, further comprising:
a data processor that determines a threshold value from the adaptive luminance;
wherein the noise filter selects the virtually filtered luminance if an absolute of a difference between the virtually filtered luminance and the reference luminance is less than or equal to the threshold value; and
wherein the noise filter selects the reference luminance if the absolute of the difference between the virtually filtered luminance and the reference luminance is greater than the threshold value.

Claim 18 (**Previously Presented**): The system of claim 17, wherein the adaptive luminance is determined from an overall brightness of a previous image.

Claim 19 (**Previously Presented**): The system of claim 17, wherein the adaptive

luminance is determined from an average reference luminance for a predetermined region of pixel data.

Claim 20 (**Previously Presented**): The system of claim 17, wherein the threshold value is greater when the adaptive luminance is lower.

Claim 21 (**Previously Presented**): The system of claim 16, wherein the adaptive luminance is indicated by an auto exposure gain for the image sensor.

Claim 22 (**Previously Presented**): The system of claim 16, wherein the adaptive luminance is indicated by the reference luminance.

Claim 23 (**Previously Presented**): The system of claim 13, wherein the virtual luminance is determined by averaging a respective pixel data multiplied with a respective weighting coefficient for each pixel location of the region.

Claim 24 (**Previously Presented**): The system of claim 13, wherein the image sensor is part of a hand-held image pick-up device having minimized line memory capacity.

Claim 25 (**Currently Amended**): A system for luminance noise filtering, comprising:
means for inputting a region of pixel data from an image sensor; and
means for determining a virtually filtered luminance from the said region of pixel data and without using other pixel data for a pixel location within the region; and
means for determining a reference luminance for the pixel location from a second processing of said same region of pixel data and without using other pixel data.

Claim 26 (**Currently Amended**): The system of claim 25, further comprising:
means for determining interpolated color components for the pixel location from the said region of pixel data; and

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means for determining the reference luminance for the pixel location from the interpolated color components.

Claim 27 (**Currently Amended**): The system of claim 26, further comprising:

~~means for determining a reference luminance for the pixel location from the interpolated color components; and~~

means for selecting between the virtually filtered luminance and the reference luminance as a final luminance of the pixel location depending on an adaptive luminance.